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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,842	01/11/2006	Jia-Ni Chu	W9643-02	3234

7590 02/21/2007
Willam D Bunch
W R Grace & Company Conn
Patent Department
7500 Grace Drive
Columbia, MD 21044-4098

EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/564,842

Applicant(s)

CHU ET AL.

Examiner

Michael A. Marcheschi

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1755

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7, 11-14, 17-20 and 23 are indefinite as to the limitations "median particle size, by volume," and "a span value, by volume," because the examiner is unclear as to what the volume is (in terms of an amount), thus rendering the scope of the claims unclear.

The other claims are indefinite because they depend on indefinite claims

Claims 1-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over (1) WO 01/98201 or (2) 6,527,817 (Fang et al.).

The WO reference teaches in the abstract and on page 2, line 29-page 4, line 9, a polishing composition and polishing method, said composition comprises an abrasive (colloidal silica) having a poly dispersed particle size distribution and water. The standard deviation of the particles is also defined.

Fang et al. teaches in the abstract and column 2, line 62-column 4, line 2, a polishing composition and polishing method, said composition comprises an abrasive (colloidal silica) having a poly dispersed particle size distribution and water. The standard deviation of the particles is also defined.

All of the references teach polishing compositions and polishing method, wherein the

Art Unit: 1755

polishing composition comprises an abrasive (colloidal silica) having a poly dispersed particle sizes distribution (size less than 100 nm). The size values of the references read on the claimed size of 20-100 nanometers, thus the claimed size is anticipated by the reference. With respect to the claimed span value, although a span value is not literally defined, the broad disclosure of the standard deviation reads anticipates this limitation. With respect to the fraction of particles having the claimed maximum size (100 nm), all of the references teach abrasives which can have a size less than 100 nm, thus the reference do not have to have sizes over 100 nm and therefore the fraction of particles can be zero (within the claimed range of "less than").

In the alternative, no patentable distinction is seen to exist because the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

Applicant's arguments filed 11/20/06 have been fully considered but they are not persuasive.

Applicants argue the indefinite rejection of claims 1-7, 11-14 and 17-20, above, in that that the volume is clear. This is not persuasive because it does not define what the percentage is. Applicants admit that the volume is a percentage of the total volume but do not define what the percentage value is.

Art Unit: 1755

Applicants argue that the references do not teach the volume of the particles but rather the percentages on a number basis. The claims in question do not define what the volume is (numerical value) thus applicants arguments based on the volume are not persuasive.

Applicants argue that the distribution defined in the references is on a number basis and it cannot be directly compared with a distribution on a volume percent. The examiner is unclear as to this argument because the size distribution of the references must contain a volume of sizes and burden is upon applicants to show clear evidence as to why the distribution of the references would not constitute particles in the claimed volume relationship.

It is the examiners position that from the data of the percentages for the individual abrasives, volume percents can be determined (depending on the size and density of the silica used which would appear to be the same), and this appears to encompass the claimed values. Applicants have not provided any clear evidence establishing that the claimed volume relationship is patentable over the number relationship of these references. Finally, the distribution of the references must have some volume associated therewith and applicants have not shown clear evidence as to why the distribution of the references will not meet the claimed volume limitations. Since all the particles of the references have the same size as the claimed invention, the volume must also be the same absent evidence to the contrary and since applicants do not define any numerical values for the volume.

Applicants appear to argue that since the reference sizes are not in volume, they cannot anticipate the claims. This is not persuasive because the claims do not define the volume percentage of the particles in the defined range. It is the examiners position that since no percentage value is defined and since the references all teach the exact claimed particle size, a

Art Unit: 1755

volume must inherently be associated therewith. The only specific volume percent value defined is for the particles above 100 nm and since the references are void of this size, the volume percent is zero which, reads on the claimed range.

Applicants also appears to argue that the examiner has not defined a prima facie case of obviousness because the reference size are not defined in terms of a volume. The examiner clearly stated why the claims are obvious, in the alternative rejections above, and thus burden is upon applicants to clearly show otherwise. A prima facie case of obviousness is established because it is the examiners position that since no percentage value is defined and since the references all teach the exact claimed particle size, a volume must be associated therewith. The only specific volume percent value defined is for the particles above 100 nm and since the references are void of this size, the volume percent is zero which, reads on the claimed range.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1755

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.

Evidence of unexpected results must be commensurate in scope with the subject matter claimed.

In re Linder 173 USPQ 356.

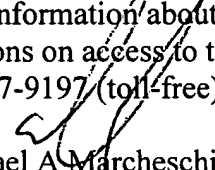
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/06

MM


Michael A Marcheschi
Primary Examiner
Art Unit 1755